

## Heredity (Life Science Unifying Concept A)

Heredity is the genetic passing of a set of instructions from generation to generation. These instructions are encoded as DNA and may manifest themselves as characteristics. Some characteristics are inherited, and some result from interactions with the environment.

By the end of the grade band:		By the end of the grade band, students know and are able to do everything required in earlier grades and:		By the end of grade band, students know and are able to do everything required in earlier grades and:		By the end of grade band, students know and are able to do everything required in earlier grades and:		
Grades K - 2		Grades 3 - 5		Grades 6 - 8		Grades 9 - 12		
L.2.A	Students understand that offspring resemble their parents.	L.5.A	Students understand that some characteristics are inherited and some are not.	L.8.A	Students understand the role of genetic information in the continuation of a species.	L.12.A	Students understand how genetic information is passed from one generation to another.	
L.2.A.1	Students know animals and plants have offspring that are similar to their parents. E/S	L.5.A.1	Students know some physical characteristics and behaviors that are inherited in animals and plants. E/S	L.8.A.1	Students know heredity is the passage of genetic instructions from one generation to the next generation. E/S	L.12.A.1	Students know genetic information passed from parents to offspring is coded in the DNA molecule. E/S	DNA
		L.5.A.2	Students know reproduction is an essential characteristic for the continuation of every species. E/S	L.8.A.2	Students know changes in genes of eggs and sperm can cause changes in inherited characteristics. E/S	L.12.A.2	Students know DNA molecules provide instructions for assembling protein molecules. E/S	
L.2.A.2	Students know differences exist among individuals of the same kind of plant or animal. E/S	L.5.A.3	Students know that, while offspring resemble their parents and each other, they also exhibit differences in characteristics. E/S			L.8.A.3		
		L.5.A.4	Students know how to observe and describe variations among individuals within the human population. E/S	L.12.A.4	Students know several causes and effects of somatic versus sex cell mutations. E/S			
		L.5.A.5	Students know some animal behaviors are learned. E/S	L.8.A.4	Students know some characteristics of an organism are the result of a combination of interaction with the environment and genetic information. E/S	L.12.A.5	Students know how to predict patterns of inheritance. E/S	